

Application No. 10/586,131
Amendment dated December 29, 2009
After Final Office Action of October 29, 2009

Docket No.: 0033-1085PUS1

AMENDMENTS TO THE CLAIMS

1. - 11. (Canceled)

12. (Currently Amended) A display apparatus comprising:

storage means for storing a control program having a plurality of instructions and each symbol data for displaying a plurality of symbols ~~symbol~~-related to each of said plurality of instructions;

control means for controlling control target equipment electrically connected to said display apparatus by executing each of said plurality of instructions;

display means for displaying an image;

first display control means based on the symbol data corresponding to the instructions ~~the instruction~~-executed by said control means for causing the symbols ~~the symbol~~-corresponding to said executed instructions ~~instruction~~-to be displayed in a first display region in said display means;

video signal input means for receiving an input of video data generated based on a picked-up image of said control target equipment for each of the instructions;

video data storing means for storing said video data;

relation means for relating the symbol data corresponding to the instructions ~~the instruction~~-executed by said control means to the video data stored in said video data storing means;

detection means for detecting designation of a symbol associated with a signal indicating abnormality of the control target equipment among the plurality of symbols ~~the symbol~~ displayed in said first display region; and

second display control means responsive to detection of said designation for causing a moving image to be displayed in a second display region in said display means based on the video data related to the symbol data corresponding to the symbol displayed in said first display region,

wherein the second display control means displays the moving image of at least one of a time period from a predetermined time previous to said detection and a time period to a predetermined time after said detection.

13. (Currently Amended) The display apparatus according to claim 12, further comprising:

timer means for measuring a time, wherein

said relation means relates the symbol data corresponding to the symbols ~~the symbol~~ displayed in said first display region to the video data input through said video signal input means based on the time measured by said timer means.

14. (Currently Amended) The display apparatus according to claim 13, further comprising:

state signal input means for receiving an input of a state signal indicating a state of said control target equipment;

log generation means for generating log information representing history of an operation of said control target equipment based on said time and said state signal; and

log storing means for storing said log information, wherein

said relation means relates the symbol data corresponding to the symbols ~~the symbol~~ displayed in said first display region to said log information.

15. (Currently Amended) The display apparatus according to claim 14, wherein

said state signal input means receives an input of said signal ~~a signal~~ indicating an abnormality in said control target equipment,

said log generation means generates log information indicating an abnormality in said control target equipment when said signal indicating an abnormality is input,

said relation means relates a time at which said log information indicating an abnormality is generated to said log information indicating an abnormality for storage in said log storing means, and

said first display control means causes the symbols ~~the symbol~~ to be displayed in said first display region by making a difference between an output form of the symbol data for displaying the symbols corresponding to ~~the symbol corresponding~~ said log information indicating an abnormality and an output form of the symbol data for displaying the symbols ~~the symbol~~ corresponding to a normal state in said control target equipment, so that a first display manner in said display means of the symbols ~~the symbol~~ corresponding to said log information indicating an abnormality differs from a second display manner in said display means of the symbols ~~the symbol~~ corresponding to said normal state.

16. (Currently Amended) The display apparatus according to claim 15, wherein
said detection means detects designation of the symbols ~~the symbol~~ displayed in said first
display manner,
said display apparatus further comprising:
reading means for reading time corresponding to said log information indicating an
abnormality from said log storing means based on detection of said designation; and
reproduction means for reading video data corresponding to a predetermined period of
time from said read time, wherein
said second display control means causes a moving image to be displayed in said second
display region based on the video data read by said reproduction means.

17. (Previously Presented) The display apparatus according to claims 16, wherein
said display means displays said first display region and said second display region in the same
screen.

18. (Currently Amended) The display apparatus according to claim 15, wherein
said detection means detects designation of the symbols ~~the symbol~~ displayed in said first
display manner,
said display apparatus further comprising:
reading means for reading time corresponding to said log information indicating an
abnormality from said log storing means based on detection of said designation; and

reproduction means for reading video data corresponding to a period of time from predetermined time previous to said time to predetermined time subsequent to said time, wherein said second display control means causes a moving image to be displayed in said second display region based on the video data read by said reproduction means.

19. (Previously Presented) The display apparatus according to claim 18, wherein said display means displays said first display region and said second display region in the same screen.

20. (Currently Amended) The display apparatus according to claim 15, wherein
~~—said first display control means controls said display means such that a plurality of symbols are displayed in said first display region in said first display manner,~~
~~—said detection means detects designation of any symbol among said plurality of symbols,~~
and
said second display control means includes
time data reading means for reading each time corresponding to each of said plurality of symbols from said log storing means,
video data reading means for reading video data corresponding to a predetermined period of time from said read each time for each of said plurality of symbols from said log storing means, and

reproduction control means for causing a moving image to be displayed in said second display region in time order or backward in time from said time corresponding to any symbol of which said designation is detected based on said read video data.

21. (Previously Presented) The display apparatus according to claim 20, wherein said display means displays said first display region and said second display region in the same screen.

22. (Previously Presented) The display apparatus according to claim 12, wherein said video signal input means receives an input of each video data generated based on an image of said control target equipment picked up by each of a plurality of image picking-up means,

said relation means relates each symbol data corresponding to each of a plurality of instructions executed by said control means to said each video data, and

said second display control means causes each moving image to be displayed in said second display region based on said each video data.

23. (Currently Amended) A computer-readable recording medium storing thereon a program causing a computer to function as a display apparatus, said program causing said computer to execute the steps of:

reading a control program having a plurality of instructions and each symbol data for displaying a plurality of symbols ~~symbol~~-related to each of said plurality of instructions from storage means for storing data;

controlling control target equipment electrically connected to said computer by executing each of said plurality of instructions;

based on the symbol data corresponding to the instructions ~~the instruction~~-executed at said controlling step, causing the symbols ~~the symbol~~-corresponding to said executed instructions ~~instruction~~-to be displayed in a first display region in display means for displaying an image;

receiving an input of video data generated based on a picked-up image of said control target equipment for each of the instructions;

relating the symbol data corresponding to said executed instructions ~~instruction~~-to said video data;

storing said video data in said storage means;

detecting designation of a symbol associated with a signal indicating abnormality of the control target equipment among the plurality of symbols ~~the symbol~~-displayed in said first display means; and

in response to detection of said designation, causing moving images relating to the designated symbols ~~a moving image~~-to be displayed in a second display region in said display means based on the video data related to the symbol data corresponding to the designated symbols ~~symbol~~-displayed in said first display region,

wherein the second display region displays the moving image during a period of at least one of prior to and after said detection.